

# Derwent (NPL)

**DERWENT-ACC-NO:** 1993-259949

**DERWENT-WEEK:** 200047

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**TITLE:** Determination of propagation times for optical fibre bidirectional communications system - obtaining timing intervals for reference markers to allow compensation for differences between near and far stations

**INVENTOR:** ALLAIRE, S; DORE, P ; MARCEL, F ; SALLAERTS, D

**PATENT-ASSIGNEE:** ALCATEL CIT SA[CITC] , ALCATEL CIT[CITC] , ALCATEL BELL NV[COGE] , BELL TELEPHONE MFG CO NV[INTT] , ALCATEL NV[COGE]

**PRIORITY-DATA:** 1992EP 0400266 (January 31, 1992)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 555596 A1	August 18, 1993	F	012	H04B 007/24
FI 105432 B1	August 15, 2000	N/A	000	H04J 014/08
AU 9332077 A	August 5, 1993	N/A	000	H04B 007/204
CA 2088461 A	August 1, 1993	F	000	H04B 017/00
FI 9300340 A	August 1, 1993	N/A	000	H04J 000/00
JP 06014084 A	January 21, 1994	N/A	000	H04L 029/08
US 5317571 A	May 31, 1994	N/A	010	H04J 003/06
AU 661638 B	July 27, 1995	N/A	000	H04B 007/204
EP 555596 B1	April 9, 1997	F	014	H04B 007/24
DE 69218913 E	May 15, 1997	N/A	000	H04B 007/24

Search Notes

ES 2099228 T3	May 16, 1997	N/A	000	H04B 007/24
CA 2088461 C	June 10, 1997	F	000	H04B 017/00

<b>DESIGNATED-STATES:</b>	AT BE CH DE ES FR GB IT LI NL SE AT BE CH DE ES FR GB IT LI NL SE
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**CITED-DOCUMENTS:** EP 188117; EP 208021 ; FR 2636482 ; GB 2095516

**APPLICATION-DATA:**

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
EP 555596A1	N/A	1992EP-0400266	January 31, 1992
FI 105432B1	N/A	1993FI-0000340	January 27, 1993
FI 105432B1	Previous Publ.	FI 9300340	N/A
AU 9332077A	N/A	1993AU-0032077	January 28, 1993
CA 2088461A	N/A	1993CA-2088461	January 29, 1993
FI 9300340A	N/A	1993FI-0000340	January 27, 1993
JP 06014084A	N/A	1993JP-0013839	January 29, 1993
US 5317571A	N/A	1993US-0011147	January 29, 1993
AU 661638B	N/A	1993AU-0032077	January 28, 1993
AU 661638B	Previous Publ.	AU 9332077	N/A
EP 555596B1	N/A	1992EP-0400266	January 31, 1992
DE 69218913E	N/A	1992DE-0618913	January 31, 1992
DE 69218913E	N/A	1992EP-0400266	January 31, 1992
DE 69218913E	Based on	EP 555596	N/A
ES 2099228T3	N/A	1992EP-0400266	January 31, 1992
ES 2099228T3	Based on	EP 555596	N/A
CA 2088461C	N/A	1993CA-2088461	January 29, 1993

<b>INT-CL (IPC):</b>	H04B007/204, H04B007/24 , H04B010/24 , H04B017/00 , H04J000/00 , H04J003/00 , H04J003/02 , H04J003/06 , H04J014/08 , H04L005/14 , H04L005/16 , H04L029/08
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**ABSTRACTED-PUB-NO:** EP 555596A

## **BASIC-ABSTRACT:**

The procedure includes carrying out a measurement of the time interval between a reference information signal transmission time, and a position signal (SW) transmitted by a distant station (ONT) at a central station.

Such measurements are compared with a period of time which represents a position window ( $T_f$ ) in order to determine propagation time between the stations.

USE/ADVANTAGE - Allows propagation time determination for time division multiple access systems using optical fibres communications with passive couplers, permitting compensation for different propagation times.

ib

**ABSTRACTED-PUB-NO: EP 555596B**

## **EQUIVALENT-ABSTRACTS:**

Method for determining the transmission time between remote terminal stations (ONT) and a central terminal station (OLT) in a point-to-multi[point] bidirectional transmission network, said method comprising measurement by the central station of the time interval between a reference time for sending of information signals by said central station and reception by said central station of a location signal (SW) sent by a remote station after a time-delay starting from a reference time for reception of said information signals by said remote station so that said location signal is received by said central station in a particular location window not assigned to reception by said central station of information signals, the location window repeating in a regular manner, characterised in that, for a given remote station, said time-delay is variable from an initial value ( $T_{ri}$ ) such that if the location signal is not received in the first location window, said location signal sending by the remote station is then repeated with a different time-delay until said location signal is received by said central station in one of the successive location windows.

US 5317571A

The method for determining the transmission time between remote terminals and a central station in a point-to-multipoint bidirectional transmission network, involves measuring by the central

station of a time interval between a first reference time for sending of information signals and reception by the central station of a location signal sent by a remote station after a time-delay starting from a second reference time for reception of the information signals by the remote station. The location signal is received by the central station in a predetermined location window, which has a width and which is not assigned to reception by the central station of information signals.

For a given remote station, the time delay is varied from an initial value such that the location signal is not necessarily received in the window. When the location signal is not received in the window, it is repeatedly transmitted the remote station until the location signal is received by the central station in the window.

USE/ADVANTAGE - Suits half-duplex or simplex transmissions.

CHOSEN-DRAWING:	Dwg.1/5 Dwg.1/5 Dwg.2/5
TITLE-TERMS:	DETERMINE PROPAGATE TIME OPTICAL FIBRE BIDIRECTIONAL COMMUNICATE SYSTEM OBTAIN TIME INTERVAL REFERENCE MARK ALLOW COMPENSATE DIFFER STATION
ADDL-INDEXING-TERMS:	TDMA POINT-TO-MULTIPOINT

DERWENT-CLASS: W01

EPI-CODES: W01-A03A2; W01-A06A; W01-A06C1;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1993-200019

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 555596 A1	August 18, 1993	F	012	H04B 007/24
FI 105432 B1	August 15, 2000	N/A	000	H04J 014/08
AU 9332077 A	August 5, 1993	N/A	000	H04B 007/204
CA 2088461 A	August 1, 1993	F	000	H04B 017/00
FI 9300340 A	August 1, 1993	N/A	000	H04J 000/00
JP 06014084 A	January 21, 1994	N/A	000	H04L 029/08
US 5317571 A	May 31, 1994	N/A	010	H04J 003/06
AU 661638 B	July 27, 1995	N/A	000	H04B 007/204
EP 555596 B1	April 9, 1997	F	014	H04B 007/24
DE 69218913 E	May 15, 1997	N/A	000	H04B 007/24
ES 2099228 T3	May 16, 1997	N/A	000	H04B 007/24
CA 2088461 C	June 10, 1997	F	000	H04B 017/00

**DESIGNATED-  
STATES:**

AT BE CH DE ES FR GB IT LI NL SE AT BE CH DE ES FR  
GB IT LI NL SE

**CITED-DOCUMENTS:**

EP 188117; EP 208021 ; FR 2636482 ; GB 2095516

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"5317571".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:33
L2	2	"5043982".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:26
L3	1	"5049982".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:29
L4	1	"5048009".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:29
L5	1	"4811338".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:30
L6	1	"4800560".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:30
L7	1	"4694453".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:30
L8	1	"4569042".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:31
L9	1	"4472802".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:31
L10	22103	"propagation delay"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:33
L11	2719	10 and "370"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:34
L12	1707	10 and "375"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:34

L13	217	11 and ("greatest delay" or "maximum delay")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:35
L14	7	13 and ("minimum delay" or "least delay")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:49
L15	116	12 and ("greatest delay" or "maximum delay")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:35
L16	3	15 and ("minimum delay" or "least delay")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:35
L17	3	14 and MAP	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:45
L18	1	("shortest propagation delay" and IMR and MAP and TDMA)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:46
L19	3	("shortest propagation delay" and TDMA)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:50
L20	1	14 and (offset near 20 clock)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:49

L21	60556	"375"/\$.ccls.("shortest propagation delay" and TDMA)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:50
L22	0	"375"/\$.ccls. and ("shortest propagation delay" and TDMA)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:50
L23	3	"370"/\$.ccls. and ("shortest propagation delay" and TDMA)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:51
L24	348	370/508,519.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:51
L25	25	24 and "time offset"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:51
L26	11	25 and (propagation adj delay)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:52
L27	2	25 and (short\$2 same (propagation adj delay))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 15:52
L28	1	"4797878".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:53
L29	1	"4726017".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:53
L30	1	"4773065".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:53
L31	1	"4694453".PN.	USPAT; USOCR	OR	OFF	2005/09/02 15:54

**On the delay in a multiple-access system with large propagation delay**

Hajek, B.; Likhanov, N.B.; Tsybakov, B.S.;

Information Theory, IEEE Transactions on

Volume 40, Issue 4, July 1994 Page(s):1158 - 1166

Digital Object Identifier 10.1109/18.335959

[AbstractPlus](#)

| Full Text:

[PDF\(716](#)

KB) IEEE

JNL

**10. Repeater insertion in RLC lines for minimum propagation delay**

Ismail, Y.I.; Friedman, E.G.;

Circuits and Systems, 1999. ISCAS '99. Proceedings of the 1999 IEEE International Symposium on  
Volume 6, 30 May-2 June 1999 Page(s):404 - 407 vol.6

Digital Object Identifier 10.1109/ISCAS.1999.780180

[AbstractPlus](#)| [Full Text:](#)[PDF](#)(384

KB) IEEE

CNF

**14. Propagation delay model of a current driven RC chain for an optimized design**

Palumbo, G.; Poli, M.;

Circuits and Systems I: Fundamental Theory and Applications, IEEE Transactions on [see also Circuits and Systems I: Regular Papers, IEEE Transactions on]

Volume 50, Issue 4, April 2003 Page(s):572 - 575

Digital Object Identifier 10.1109/TCSI.2003.809805

[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(358 KB) IEEE JNL**15. Propagation delay model of current driven RC chain**

Palumbo, G.; Poli, M.;

Electronics, Circuits and Systems, 2002. 9th International Conference on

Volume 2, 15-18 Sept. 2002 Page(s):619 - 622 vol.2

Digital Object Identifier 10.1109/ICECS.2002.1046245

[AbstractPlus](#) | Full Text: [PDF](#)(352 KB) IEEE CNF

**21. On the delay in a multiple access system with large propagation delay**

Hajek, B.; Weller, T.;

Information Theory, 1994. Proceedings., 1994 IEEE International Symposium on  
27 June-1 July 1994 Page(s):404

Digital Object Identifier 10.1109/ISIT.1994.394615

[AbstractPlus](#)| [Full Text:](#)[PDF\(76](#)KB) [IEEE](#)[CNF](#)

# Interference Search

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	87721	"370"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:35
L2	2	1 and ("propagation delay" same "upstream channel").clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:36
L3	2	("propagation delay" same "upstream channel").clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:36
L5	0	"375"/\$.ccls. and ("propagation delay" same "upstream channel").clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:37
L6	0	"375"/\$.ccls. and ("propagation delay" same remote near5 device).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:37
L7	1	"370"/\$.ccls. and ("propagation delay" same remote near5 device).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:38
L8	927	((("greatest delay" or "maximum delay") same ("least delay" or "minimum delay")))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:39
L9	6	8 and (demodulate\$1 near5 upstream)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:41

L10	1	9 and (MAP same "starting point")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:41
L11	6	8 and (demodulate\$1 near5 upstream).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:41
L12	1	9 and (MAP same "starting point"). clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:41
L13	1	("clock output" near20 "programmable offset")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:42
L14	1	("clock output" near20 "programmable offset").clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/09/02 16:42